3rd Quarter 2018

RECLAMATION Managing Water in the West

Reclamation's Newsletter on Safety and Occupational Health

THE WATER SAFETY ISSUE

Director's Message:

The Power of Water

From Brian Becker, Acting Director, Security Safety and Law Enforcement, Denver Office

The theme of this issue is water safety. It seems timely in the summer months when water can be a significant part of outdoor recreation. Did you know that on average 10 people die each day from drowning? Drowning can be fatal in as little as 60 seconds. We have probably all heard of the recent death of Olympic Alpine Skier Bode Miller's, 19-month old daughter. She drowned in a neighbor's pool. Our thoughts go out to his family. It also seems common to hear of those close calls when people are saved bystanders.

On a personal note, I grew up in an area surrounded by more than 10,000 lakes and many more pools. Not knowing how to swim was a serious handicap. I didn't learn how to swim until the eighth grade thanks to a physical education teacher named, Mr. Bergner. He decided to take a bold step and teach a class full of attention deficient teenage boys to swim. Not only was he going to teach us to swim, he decided our grade would depend upon us passing the certification test. Most of us were scared; I was elated. This story ends well, with an "A" on my report card. More importantly, I had the confidence and ability to wade past the shallow end of the pool, dive from the board, swim to that raft in the lake,

and take up water skiing. But knowing how to swim doesn't guarantee our safety around water.

Director's Message — Continued on Page 2



Life Ring by Brian Norcross, free image from Stockvault.com



INSIDE THIS ISSUE

Director's Message: The Power of Water1-2
Controlling Noise in Hydroelectric Power, Part 12, 8
In The News: Hard Hat Recall, OSHA Online Chemical Database, GHS Pictogram Quiz
Home Safety Tip: Get Out Fast! Newer Homes Burn Faster3
Safety Spotlight: DFC Safety Day 20184
Safety Factor Editorial: But It's Only Water5
Safety Focus: River Hazards & How to Survive Them6 –7
Did You Know?: Poison Help Hot- line, Call 811, How Loud Is Too Loud?9, 12
Housekeeping in the Workplace Affects Safety9
Technical Corner: Safety Culture in Reclamation, Part 110, 12
Lessons Learned :Road Hazards11
Facts on Fatigued Driving13
Lawn Mower Safety14
Safety Photo Contest14
Safety Timeout: Word Search, Bo-
nus Activity, Q2 Edition Crossword
Puzzle Solution 15_17





Find the seven common workplace safety hazards images throughout this newsletter. Visit www.nsc.org for more information on each hazard.

Director's Message

(continued from previous page)

At Reclamation, we have spent years trying to better understand the lethality of water, particularly running water, and more specifically, water released or conveyed from our facilities. It helps inform decisions we make on the design, operations and modifications to our facilities. We understand flowing water can sweep people off their feet, trap swimmers, it can move vehicles and even buildings. Knowing how to swim is not enough, we should avoid these situations.

Practicing water safety is about training and education. It's also about knowing what to avoid. Water Safety can lead to hours of fun and enjoyment. Let's have a fun summer.

Controlling Noise in Hydroelectric Power, Part 1: Heart Mountain Powerplant

By Michael L Green, PE., Safety Engineer, Reclamation Safety Office

Noise induced hearing loss is Reclamation's number one workers compensation cost. However, noise induced hearing loss is preventable. While Reclamation continues to encourage and enforce the use of hearing protective equipment, such as ear plugs and ear muffs, we are exploring options of reducing noise exposures with engineering controls.

In 2011 the Safety and Occupational Health Office initiated a research and development project to identify primary noise sources and reduce noise levels in Reclamation's powerplants by using engineered noise control materials and methods. This effort is continuing today through a partnership with the Office of Naval Research. In March 2018 engineered noise controls were installed at Heart Mountain Powerplant. The follow-up noise survey conducted in April 2018 showed significant decrease of noise levels in the powerplant.

The engineered noise controls at Heart Mountain Powerplant included redirecting the airflow path for cooling air fans, installing a silencer on the cooling air intake, placing mass loaded dampening material on the cooling air duct, installing a high transmission loss/absorption acoustic barrier around the cooling air fans, installing acoustic absorption panels on the generator level walls and ceiling, installing silencers on the generator vent openings, installing acoustic absorption panels on the turbine pit level walls, and installing a flexible noise barriers in the scroll case access passageway. The following photos show the Heart Mountain Powerplant generator level before and after the installation of engineered noise controls.

(continued on page 8)



In The News: Hard Hat Recall

Recently Honeywell issued a recall for 82,500 hard hats of the Fibre Metal E2 Cap and North Peak A79 models only. Fibre models dated April 2016, May 2016, December 2017 and January 2018 are recalled, along with North Peak models with a No. 4 mold stamp dated between April 2016 and January 2018.

If you have one of these recalled models, stop use immediately and call Honeywell at 888-212-6903 for more info, or visit www.honeywellsafety.com and click "Voluntary Product Recall" link.

In The News: OSHA Online Occupational Chemical Database

Recently OSHA launched an online chemical inventory touted to be the "...premier one-stop shop for occupational chemical information." You can search by part or whole chemical name, brand or common, or you may also search by CAS number or fragment of that number. Information on the chemical will include chemical identification, physical properties, exposure limits, sampling information and additional resources.

It is not intended to replace SDS (Safety Data Sheets) nor be part of your Hazard Communication program. However it is a great resource for quickly looking up chemical info. You can find the OSHA Occupational Chemical Database at https://www.osha.gov/chemicaldata/.

Home Safety Tip: Get Out Fast! Newer Homes Burn Faster

Three minutes. That is all you have to safely escape a burning home, according to Underwriter's Laboratory and the National Fire Protection Association. Homes built 30 years ago or more were structures made with fewer synthetic building materials and has less open floor plans, two of the top contributing factors to why you have so little time to get out of a house on fire.

Data says that seven people die in house fires every day in the U. S. Lack of planning, practice drills and knowing how little time to get to safety a person has contributes to that statistic. The National Safety Council has excellent resources for home fire safety. Key points are to:

Have working smoke alarms in each sleeping room, outside each sleeping room, and on each floor for multi-story homes

Create a fire safety plan for your family specific to your home

Have at least two ways to exit each room

Hold practice fire drills and time how long it takes to get everyone safely out

Do not call 911 from inside a house on fire; call from your designated safe distance meeting place or from a neighbor's house

Absolutely never go back inside a burning building; tell First Responders and let trained professionals enter.

Just like the fire evacuation plans and drills you have at work, the same for your family will help save lives if ever you need to Get Out FAST!

More information can be found at https://emergency-preparedness/fire and this link will take you to the Home Fire Drill Day website with excellent resources for the whole family https://homefiredrillday.makesafehappen.com/.



SAFETY SPOTLIGHT

Denver Federal Center Health, Safety and Security Day 2018

by Reclamation Safety Office

June 28th the 3rd Annual Denver Federal Center Health, Safety and Security Day was held. Over 50 vendors and exhibitors showcased the wide range of products and services to approximately 550 visitors, to encourage health and wellness, personal security, home and work safety, and emergency management.



Hosted by a joint consortium of federal agencies, this event is held in June as part of National Safety Month and in conjunction with the DFC Farmer's Market and DFC Pet Supply donation drive. One of the highlights this year was the K9 unit demonstration, and one of the most popular stops was the 9HealthFair free blood pressure check.

Health and safety fairs are a great way to learn more about services and products that you might not know about or want more info on. Check in your local area for upcoming events on Facebook or local news outlets.

To highlight a something interesting or noteworthy from your office in the Safety Spotlight, contact MRutheyi Thompson at mrthompson@usbr.gov.

Photo Captions:

Photo 1: Federal Protection Service K9 unit doing a demonstration.

Photo 2: Several exhibitors set up at the event.

All photos provided by MRutheyi Thompson





WORKING AT HEIGHT

Employers need to identify all locations where fall protection is necessary – as well as where the engineered anchor points are – and train employees and regularly audit the fall protection program, Dankert said.



DID YOU KNOW?

In Reclamation Directives and Standards SAF 01-04 "Motor Vehicle Safety Program", every employee must complete a refresher defensive driving training course every 3 years from the date of their original course completion?



Safety Factor Editorial Corner

But It's Only Water

Editorial by MRutheyi Thompson

What is your earliest memory of playing with water? A bathtub with fun toys? Fishing on a pond, lake or stream? Jumping in large puddles on the way home from school? Everyone has childhood moments involving water and recreation.

We likely grew up thinking of water as a gentle liquid, incapable of injury or harm. Here again, most of us have some memory of when that thinking changed, and we realized the deadly force water truly is. Mine was a lovely summer day in south central New Mexico, playing outside with almost a dozen of my cousins and my brother. Barely a cloud in the sky where we children were playing, though off to the west dark roiling clouds of a strong monsoonal storm were on the far distant horizon. We played, blissfully unaware of the danger that loomed.

Our great-aunties called out to us to come into the yard of our great-grandmother's home near Mescalero, NM. They told us bad rains were headed our way. We moved a little closer to the house but we were still dashing up and down the banks of the arroyo nearby. A faint rumble of thunder sounded and then we heard the crack of great-grandmother's walking stick against the frame of the house. A diminutive woman, her voice boomed across the sere landscape. In three languages she told us to get up to the house NOW!

Reluctantly we all did as we were told. About 30 minutes later we saw why. With clear skies above us a violent wall of water roared down the arroyo we had been playing in. It swept away sagebrush, scrub oak and a favorite dwarf pine tree in a matter of minutes. Every single one of us great-grandchildren had a front row seat to a life-sized science demonstration – the power of water.

I remember one of my cousins saying "But it's only water, how could it do that?" Native American wisdom from our elders is a beautiful thing. My great-grandmother retold the story of how this world was formed, which includes the rushing waters washing away the old world and all the evil in it. She said, "Water is mostly soft and gentle, but She can destroy the entire world if She wants to. Never turn your back on Her or you won't live to regret it."

In Reclamation, we deal with water every day. It can be easy to forget the power and deadliness of water. It can be easy for us to take this fact for granted. It can be easy to become complacent around water. "But it's only water" you might say. Instead listen to the wisdom of the elders, and always take water safety seriously.



Photo credit: MRutheyi Thompson

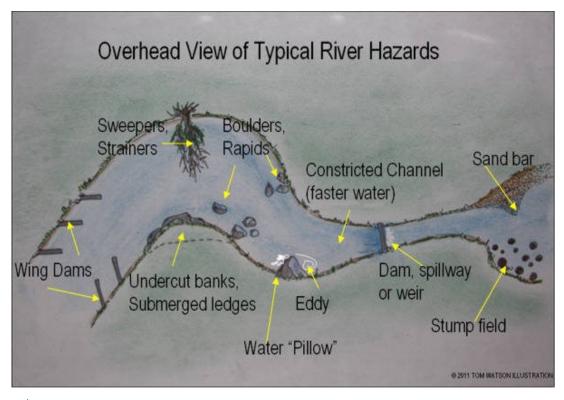
Safety Focus:

River Hazards & How To Survive Them

Original Article by Tom Watson; Condensed by MRutheyi Thompson, CESCO

I learned the hard way that high spring waters clogged with debris create ongoing hazards. I found myself, in my canoe, caught in a dense network of skeletal-like branches of a downed cottonwood. While trying to get free, I lost my balance, flipped my canoe and was being forced to the bottom of the river. I found the gunnels of my submerged canoe and yanked it free. As it began to find its way to the surface, I followed it and popped up gasping for air.

Each water body type, whether expansive oceans and lakes or meandering streams and rivers, have their own unique hazards. Some are natural hazards and others are man-made. Of all these hazards, arguable none present the diversity and intensity of hazards as do the flowing channels of water. The first of these swift water hazards is current. Smooth flowages of water can suddenly twirl and tumble from visible and submerged obstacles that cause



dramatic changes in current.

Other hazards common to all bodies of water are the natural elements of wind, lightning, fog and even the water itself (hypothermia, for example). Man-made hazards come from weirs, spillways, drop gates, wing dams, footings of bridges or other structures, and other watercraft. You will want to develop skills to deal with a wide variety of challenging obstacles along rivers and swift waters. **Prevention is far preferred to recovery in most all cases.** Better to avoid a problem than try to get out of it.

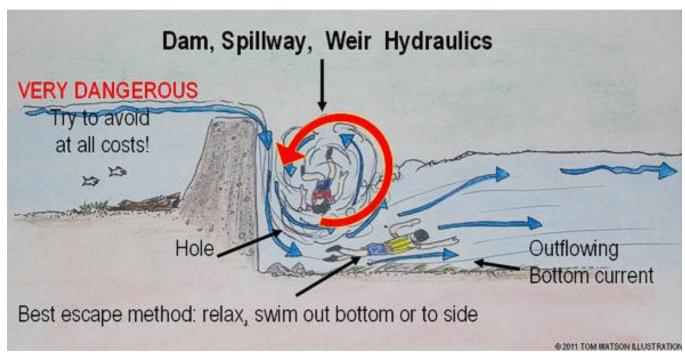
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Safety Focus:

River Hazards & How To Survive Them

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The hydraulic somersaulting tumble at the base of a dam (or similar water hazard) is most often a fatal predicament.



The force of the water keeps an object recycling over and over in the boil of the current. The best chance at recovery is to relax (that alone will take a mighty serious effort given the circumstances) and try to swim deep to get into the slower, downstream current that does flow out of such holes.

In Cliff Jacobson's book, "Basic Essentials—Canoeing", several common mistakes are made in swift waters. Don't stand in water more than knee deep; strong currents can knock you down and rocks can trap your feet. If caught against a rock—lean downstream. Don't wear your lifejacket unzipped; it makes it easy to get snagged on branches, rocks, etc. Wear appropriate, easy-to-discard footwear; if your foot gets caught in rocks or other hazards, remove your foot from your shoe.

Hazards can be minimized and mitigated by learning and practicing essential water safety skills, knowing the rules and regulations of waterways, being aware of hazards and spotting them, using a float plan and always acting responsibly. Above all be careful, have fun and be safe. The best way to deal with a river hazard is to avoid it altogether.

(full article can be found online at https://paddling.com/learn/river-hazards/)

Tom Watson is an avid sea kayaker and freelance writer. He also post articles and thoughts on his website www.tomoutdoors.com/blog/.



Controlling Noise in Hydroelectric Power, Part 1:

Heart Mountain Powerplant (continued)

(continued from page 2)

Data from the follow-up noise survey at Heart Mountain Powerplant indicated the noise levels on the generator level decreased in the range of 12 decibels (95 decibels before to 83 decibels after). The noise level in the turbine pit level decreased in the range of 10 decibels (96 decibels before to 86 decibels after). Bottom line is the powerplant is quieter and a safer work environment.

In the next Safety Factor look for Part 2 outlining the engineered noise controls at Flaming Gorge Powerplant. For more details about the Noise Control Project please contact Michael Green, Safety Engineer, at mlgreen@usbr.gov or 303-445-3725.



Photo credit: Michael L. Green, PE.



Before Controls

After Controls



POOR HOUSEKEEPING

If the clutter or spill requires specialized training to clean up, then employees need to alert their supervisor, who can send in the appropriate staff. Additionally, Dankert recommends setting aside a few minutes at the end of each shift, or on a Friday afternoon, to clean up before leaving for the day.

2

Did You Know: Poison Help Hotline Is Nationwide



The Poison Help Hotline at 1-800-222-1222 is available nationwide. If you call on your cell phone, it will go to the Poison Control Center associated with your cell's area code and prefix; but they can transfer you to the center closest to you if necessary. Usually the center that answers your call will be able to help you. Put this number into your contacts and memorizing it is good in case of a suspected poison emergency.

Housekeeping in the Workplace Affects Safety

According to statistics from OSHA inspections and data from the Bureau of Worker's Compensation, having a well maintained, tidy workspace positively affects overall safety. Safety and environmental compliance auditors routinely see the correlation as well. Not only can good housekeeping in the workplace prevent injuries and avoid citations, it can make for a more conducive work environment, boosting productivity and morale.

Simple actions can make for a well-kept, safer workspace.

- Keep floors clean, free of tripping and slipping hazards
- Put tools and equipment up in their correct location after use
- Store chemicals in proper containers and cabinets
- Keep all emergency exits and walkways open at all times
- Ensure lighting is adequate for the workspace and replace burnt out bulb/lights
- Stack boxes and items on shelves in proper reach range and make sure stacks/shelves are secured if necessary to keep from shifting or tipping over
- Keep desks and tables organized; keep items from the edges where they can be easily knocked off
- Avoid tracking soil, mud, dust, oil/grease, etc from outside and shop areas into offices or common areas

This list is not all the housekeeping actions for a cleaner, safer, more organized workplace. Think of other ideas and submit them to MRutheyi Thompson at mrthompson@usbr.gov. You may see them in upcoming editions of *The Safety Factor*!

ELECTRICAL – EXTENSION CORDS Although extension cords can be useful for temporarily supplying power for certain operations, the key word is "temporarily." When a cord is used for several weeks or months, Dankert said, OSHA doesn't consider the use temporary. This opens the door for a violation.

Technical Corner: Safety Culture in Reclamation Part 1

This is Part 1 of a 6 Part Series on Safety Culture by Denise Arbuckle, Safety Specialist, Office of Safety, Security, and Emergency Management, Mid-Pacific Region.

If you ask employees, supervisors, and managers if they support a strong safety culture in Reclamation, most of them will state that they support this. But what is a strong safety culture, and how do we achieve this? In a workplace with a good safety culture, everyone reports their safety concerns. An atmosphere of trust exists between leadership and employees, with employees knowing that important information will be heard and acted upon appropriately. No one should ever be afraid to speak up; it could save a life.

Everyone is treated fairly. Management balances the rewards when earned with the need for discipline when warranted. Employees clearly understand acceptable and unacceptable safety behaviors, and there is a sense of fairness in how business is conducted for everyone. Those in authority do not "shoot the messenger" for bringing up safety concerns.

We change to meet new demands by building up resilience. This enables an organization to adapt to unforeseen developments and to make changes based on incoming trend information. This allows an organization to push past obstacles when something new or different happens. Operations are not disrupted by additional demands, but continue to operate in a steady state to successfully complete the mission.

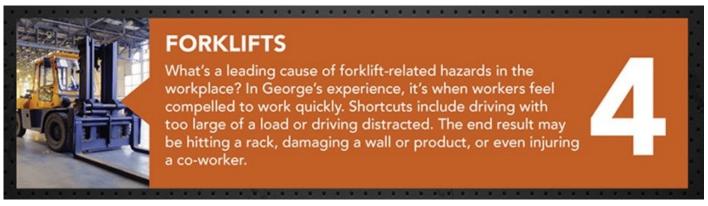
We learn from our successes and mistakes; employees collect, assess, and share information. This takes place both formally and informally. It is important for us to learn from our experiences and apply this knowledge to our iobs.

Everyone does their part. Regardless of status or occupation, all employees actively participate in safety to accomplish Reclamation's mission. The key is having engaged leaders and employees who demonstrate that they value safety and get involved.

In Reclamation, the objective is to develop a safety culture in which:

- Employees share a common goal of developing a safe and healthful workplace
- Top management is involved with safety and provides safety leadership
- Safety evolves from a priority to a value
- Management not only expects hazard reporting but also values and rewards it
- Employees go beyond the call of duty in finding hazards and feel comfortable reporting them
- Incident investigations are based on fact-finding instead of fault-finding
- Everyone feels responsible and pursues safety and health every day
- Employees intervene with and coach one another

(continued on page 12)



Lessons Learned - Road Hazards

(originally issued by Great Plains Region February 26, 2018)

Date: February 26, 2018

Location: Interstate 70, Denver, Colorado

Description of Incident:

An employee was driving from the Denver International Airport to the Technical Service Center via Interstate 70. The employee was traveling in the middle lane of traffic at the posted speed limit of 65 mph. A pickup truck passed the employee and changed three lanes in front of the employee.

As the truck was moving in front of the employee, an object became airborne and hit the employee's windshield. The impact of the object smashed the windshield and actually broke through the safety glass in two places. The employee was hit by small pieces of glass in his face, mouth and chest. The employee was wearing sun glasses, and he

believes they prevented glass from entering his eyes. The employee does not know what hit the windshield.

The employee was able to move the car off the interstate safely and was not injured. The employee had recently completed Defensive Driving training and believes the information covered in the class assisted him in maintaining control of the vehicle after the windshield was damaged.



Recommendations and Corrective Actions:

- 1. Refresh your knowledge of defensive driving techniques regularly.
- 2. Be alert to road hazards including objects on the road and material falling from vehicles in front of you.



Technical Corner

(continued from page 10)

The safety community in Reclamation envisions a working environment with safe attitudes and behaviors modeled by management and embraced by all employees. This fosters an atmosphere of open communication, mutual trust, shared safety values and lessons, and confidence that we will balance challenges and risks consistent with our core value of safety to successfully accomplish our mission.

In the next part of this series, we will take a closer look at how Reclamation can develop a strong safety culture.

Did You Know: Call 811 Before You Dig

Every state has an 811 number for you to call "Before You Dig". The color coding is the same in every state too. Whether at home or on the job, always call 811 days in advance of any digging operation you plan to do.



COLOR CODE



Did You Know: How Loud Is Too Loud?

NOISE LEVELS BY DECIBELS Pneumatic Precision Drill 119 **Hammer Drill** 114 **Chain Saw** 110 **Spray Painter** 105 Hand Drill 98 **NIOSH Recommended Exposure Limit** 85 Normal Conversation 60 Whisper 30 CPWR THE CENTER FOR CONSTRUCTION RESEARCH AND TRAINING

In The News: GHS Pictogram **Quiz Online**

How well do you know your Globally Harmonized System (GHS) Pictograms?

The National Safety Council has created a quick, online and interactive quiz so you can find out.

Go to http://www.safetyandhealthmagazine.com/ articles/9561-match-the-pictogram-to-the-hazard?page=3 to test your knowledge and learn more about the pictograms often seen on the new GHS Safety Data Sheets.







Facts on Fatigued Driving

Truth:

There is no substitute for sleep.



NIOSH has put together a fact sheet on Fatigued Driving for Oil and Gas Workers. But the information is relevant for every driver. Being well-rested is key, but so is proper diet and good health. It is also important to know you can use stop work authority if you feel you are unsafe to drive or continue driving. Pull over in a safe area. Let your supervisor know what you are doing and why. Rest adequately enough to continue safely, then resume your drive.

Know the warning signs of Fatigued Driving, such as: frequent yawning, dropping or heavy eyelids, drifting from your lane or erratically in your lane, or forgetting the last few minutes you've driven. You cannot use cold air, loud music or caffeine to ensure you are awake and alert enough to drive when fatigued.

For more information, visit https://www.cdc.gov/sleep/about_sleep/drowsy_driving.html and www.drowsydriving.org.

Fatigued driving is linked to several factors.

Time of day

Your natural body clock (circadian rhythm) gives strong signals that it's time to sleep at night and early morning hours. You may also experience a dip in alertness in the afternoon.



Monotonous tasks

Driving for extended periods of time with few changes in routine can increase risk of fatigued or inattentive driving.



Length of time awake

The more hours awake, the more likely you are to be fatigued. Fatigue can impair your driving and other tasks, similar to alcohol impairment. If you don't get enough sleep for many days in a row, you can also suffer impairment.



Medications and health conditions

Illnesses, diseases, and some medications may interfere with your alertness, increasing the risk of fatigued driving.



LOCKOUT/TAGOUT

Proper lockout/tagout procedures can help prevent serious injuries, but only if those procedures are followed. "A lot of organizations, they've got the best procedures in place, but it's the implementation of the procedures that fails," George said.



Lawn Mower Safety

A recent series of incidents with lawn mower, both push/walkbehind and riding mowers, catching fire have renewed alerts by safety organizations on lawn mower safe use, care and storage. In addition, Kobalt, Greenworks and Husqvarna have issued recalls on some of their mowers since late May 2017. Check the make and model of your lawn mower for any safety bulletins or recalls before the next use.

Here are some safety tips for lawn mower safety:

- Never refuel while the engine is running and make sure the mower has cooled down before refueling. A hot engine or mower part can ignite the vapors from the mower fuel tank or the refueling container.
- Never store mower in a garage, shed or other enclosed space, or against a building or structure, until it has cooled down. Vapors can be released by the mower, collect in the enclosed or poorly ventilated space, and ignite. A Reclamation employee recently assisted a neighbor with such a situation that could have caught the neighbor's home on fire.
- Before each use, inspect the mower for any damaged blades or clogged deflector. Check filters and air intake as directed in owner's manual. If using a collection bag, make sure chute is clear and bag properly secured.
- Inspect and clear work area of large debris; mark immovable hazards so you can avoid them.
- Wear appropriate attire for mowing. Wear long pants that are close-fitting to the body, so as to not get caught in moving parts or cause tripping/catching hazard. Wear boots or full coverage shoes, with good traction soles. Avoid wearing jewelry that could get hung up on mower or natural hazards. Use eye, hand and ear protection.
- Be aware of inclines and uneven ground surfaces. Blades can strike at odd angles and bend or break dynamically, causing injuries. Discharge chutes or deflectors can become blocked and become safety hazards.

More safety tips can be found at http://www.safetyandhealthmagazine.com/articles/experts-offer-lawn-mower-safetytips

Safety Photo Contest

The 2018 Reclamation Safety Photo Contest is underway! Deadline for submissions is September 28, 2018! These photos are used for safety related products, such as the annual Safety Calendar, safety websites, announcements and presentations.

Submissions must be untouched, unedited camera originals. Each submission should include an informative caption. It should not have any date/time stamp on the image. It must be related to a Reclamation project, facility or activity.

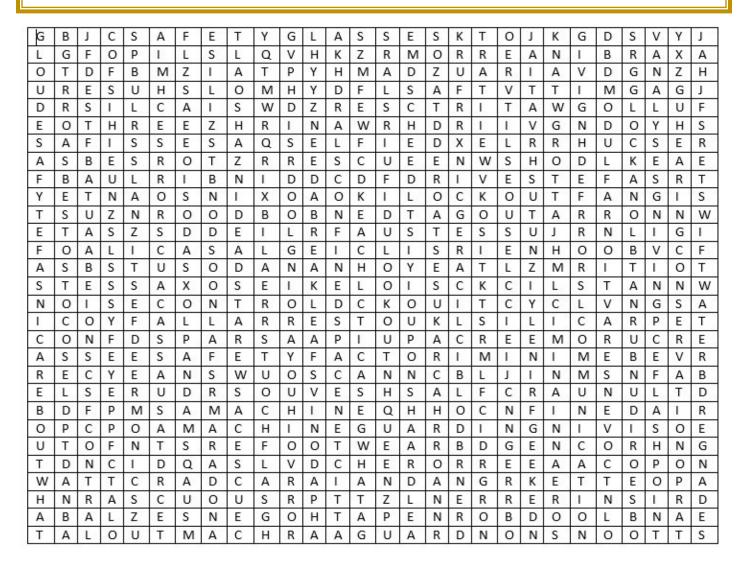
Full details on the contest rules and to submit your entries can be found on the Great Plains Intranet at:

http://intra.gp.usbr.gov/tmp/safety.htm

Show how Reclamation employees incorporate "I Care About Safety" through your photos!



Safety Timeout: Safety Word Search



See if you can find all the safety words, terms and acronyms in this grid. Answer key will be published in the next edition of The Safety Factor.

(Hint: You should find at least 34 up there)



On The Funny Side: Safety Humor

At a recent safety meeting they asked, "What steps would you take in case of a fire?"

Apparently "Really big ones" was the wrong answer!

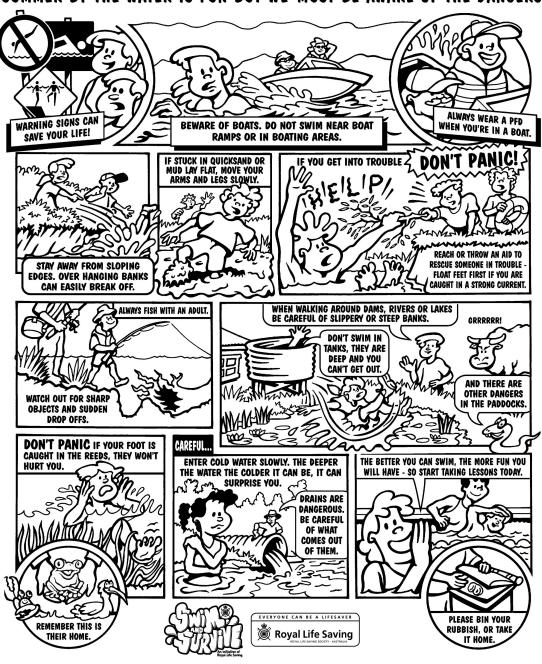
The Safety Factor

Safety Timeout: BONUS

Water Safety Tips Poster

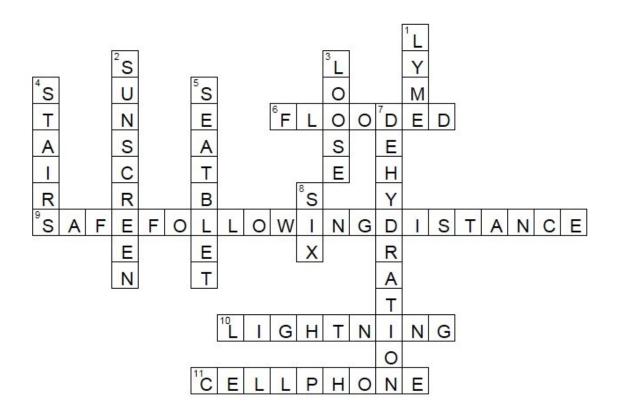
WATER SAFETY TIPS FOR RIVERS, LAKES AND DAMS

SUMMER BY THE WATER IS FUN BUT WE MUST BE AWARE OF THE DANGERS



Safety Timeout: Q2 Safety Factor Crossword Solution

Safety Factor Q2 2018 Edition Safety Puzzle



CONFINED SPACES Confined spaces can present a resaid many tragedies involving constant to the space of the s

Confined spaces can present a number of hazards. George said many tragedies involving confined spaces have occurred because an employer didn't issue a permit or failed to carry out a risk assessment.

